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tion, or to changes in the brilliancy of the star's photosphere—whatever it be due to—the remarkable regularity with which the light waxes and wanes must be always taken into account in the theory, at once differentiating this class from the long-period variables which are subject to great irregularities in their periods.

Gibraltar: 1896 *February* 3.

Melbourne Observatory.

The following letter and report were received by the Secretaries on April 13, too late for inclusion in the Annual Report of the Council:—

" *Observatory, Melbourne:*
" 1896 *March* 10.

"Dear Sir,—I am sending you herewith a Report of our work in 1895. The very long delay was unavoidably caused by my absence from the Observatory.

"Believe me, very truly yours,
"Pietro Baracchi.

The Secretary, Royal Astr. Society, London."

The following is a brief account of the work carried out at the Melbourne Observatory during the year 1895:—

Meridian Work.—Observations in Right Ascension 2,503, in North Polar distance 1,387, subdivided as follows: viz. 819 observations of standard clock stars, 255 of azimuth stars, 54 special stars observed three times in both coordinates for the Adelaide Observatory, and the remainder, observations of stars for use in connection with our astrophotographic work. With regard to the latter stars it may be stated here that they were taken from a list, which we are gradually completing, consisting of stars selected from the catalogue plates in the zone allotted to this observatory (five stars in each plate suitably distributed for the purpose of facilitating the final reduction of these plates), and intended for observation with the transit circle. 195 of these stars have also been observed at the Adelaide Observatory and Sir Charles Todd has promised further help in this direction. The transit circle was reversed in 1895 March.

Astrophotographic Work.—Number of exposed plates 397, subdivided as follows: viz. catalogue plates 236, chart plates 49, Oxford type charts 26. Plates exposed on the pole for testing the clearness of the night 53, plates for trails 22, for adjustment of the centre 11. Of these 17 were rejected on account of defects in the film, setting, or broken exposure. Each plate was submitted to a preliminary examination in order to ascertain that the general conditions, such as accurate setting, orientation,

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intensity of images of minimum magnitude stars, definition, &c., were satisfactory ; and also for the selection and measurement of the five stars mentioned above. These measurements are made by a micrometer scale (of the type proposed by Professor Turner) made by Troughton and Simms. It works satisfactorily in so far at least as these preliminary measures are concerned. Only 139 plates remain to be taken in the zone allotted to Melbourne, and these will be secured in the course of this year.

Time Service.—On 1895 February 1, zone time referred to the meridian 10^h east of Greenwich was inaugurated in the Colony of Victoria, and accordingly since then the time-ball has been caused to drop $20^m\ 6^s$ earlier than formerly. Zone time signals were transmitted to town and up-country telegraph and railway stations as usual.

Magnetical.—The photographic curves representing the variation of the elements of terrestrial magnetism have been secured throughout the year with only a few hours of accidental interruption. Absolute measurements were made about once a month.

Meteorological Service.—Two forecasts of the weather were issued daily. Rainfall statistics and weather records have been prepared for the press in quarterly publications as in preceding years. Photographs of the Sun were taken on 58 days.

Miscellaneous.—Testing of nautical, surveying, and meteorological instruments, and rating of chronometers for the public. This formed part of our routine work throughout the year. 350 visitors were attended to on Wednesday afternoons, and 247 were admitted at night to view the moon, &c. through the great telescope.

General Remarks.—In March last Mr. E. F. J. Love, M.A., Lecturer on Physics at the Melbourne University, returned to Melbourne after a visit to England, during which he swung the three half-second pendulums of this observatory at Greenwich, Kew, and Cambridge, for gravity determinations. It was necessary to again swing these pendulums after the voyage in order to ascertain their invariability. This was done, and from a preliminary reduction of my observations made here before and after Mr. Love's trip to England, it appears that no appreciable change took place in the instruments. Mr. Love is now engaged in making a fresh determination of the pressure and temperature corrections, after which the final reductions will be made and the results published.

Very few observations were made with the great telescope and smaller equatorial. The examination of the southern nebulæ, for which the great telescope is almost solely adapted (apart from celestial photography), was suspended in 1892, owing to reorganisation of the staff, necessitated by the retirement of the first and second assistants, Messrs. White and Moerlin. The work had been in my charge for the previous eight years, and at the end of that time many hundreds of drawings, sketches, and descriptions of nebulæ, with micrometric measurements of neighbouring

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stars were added to those of previous observers. These were intended to be arranged in proper form and reduced for publication as a sequence to part I. of *Observations of Southern Nebulæ, &c.*, edited by Mr. Ellery, but circumstances prevented the carrying out of this purpose.

It would now seem undesirable, even if time could be spared for this most attractive class of astronomical observations, to continue the work on nebulæ, until we have dealt with the material already secured.

Other still unpublished works are the Melbourne zones 60° to 69° 20′ south declination, observed between 1866 and 1871, and the annual catalogues 1884–94 inclusive, all fully reduced.

In April last Mr. Fred Ingamells, one of the junior assistants who had given valuable services for 12 years, retired in pursuance of a retrenchment scheme proposed by the Government.

Mr. Ellery's voluntary retirement from the post of Government astronomer, which, as has already been notified, took place in July last, was a loss to the observatory which cannot be overrated, and will be felt for a long time. Thus in the last three years the staff has been severely weakened by the retirement of four workers, including its oldest and most experienced members and its director. It is, however, intended to keep the meridian and astrophotographic work up to the usual standard of past years.

The meteorological work which weighs so heavily on the time and energy of the institution can hardly be reduced, as the public demands it with increasing exigency.

The magnetic work cannot be discontinued, as this is the only station in Australia where such observations are systematically carried out. Indeed, there seems to be a revival of general interest in terrestrial magnetism with some prospect of concerted observations being undertaken, and no doubt the co-operation of this observatory, where records have been continuously taken for over 30 years, seems all the more desirable.

The investigation of the division errors of the 8″ transit circle has not yet been made. It is fully recognised that a catalogue based upon the observations made with this instrument since 1884 cannot be completed until such investigation is accomplished. The question of measurement and reduction of the astrophotographic plates has not yet been seriously considered. It is hoped that at the forthcoming conference of the International Committee to be held at Paris in May next, some understanding may be arrived at as to the course to be adopted for this purpose.

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Note on Comet Perrine (1895 *IV*). By Dr. H. Kreutz.

(*Communicated by the Secretaries.*)

The following letter has been received from Dr. Kreutz :—

"*Kiel:* 1896 *April* 18.

"In *Monthly Notices*, 1896 March, theilt Herr H. C. Russell die Beobachtung eines Cometen von A. E. Parker d. d. 1895 Dec. 21–24, mit. Es ist nun gar kein Zweifel, dass es sich hier um eine Beobachtung des ersten Cometen Perrine handelt; vergl. die Mittheilung aus Dar-es-Salaam *Astr. Nachr.* 3339, p. 47, und *The Observatory*, 1896 Jan., p. 62."

Further Note on the Light seen at Oxford on 1896 *March* 4.

By H. H. Turner, M.A., B.Sc., Savilian Professor.

In the letter above quoted Dr. Kreutz continues :—

"Eine ganz ähnliche Erscheinung, wie Sie am 4. März d. J. sahen, ist auch von uns vor längerer Zeit (1895 März 13) in Kiel in W.N.W. beobachtet worden. Hier aber konnte Prof. Lamp, der sich auf dem höchst gelegenen Punkt der Sternwarte befand, constatiren, dass es sich um einen Nordlichtstrahl handelte. Von unten aus gesehen, war die Erscheinung, welche circa ¼ Stunde andauerte, dem Schweife eines grossen Cometen täuschend ähnlich."

Mr. Charles Martin, Assistant at Dunsink, writes me as follows :—

"*Dunsink House, co. Dublin:*
"1896 *April* 19.

"I saw in *The Observatory* that you read a paper on zodiacal light seen by you on March 4. I was observing that night here, and watched the light for about two minutes. It was 5° wide, and stretched from the horizon to about 40° N.P.D. I only saw it for two minutes, as thick clouds came up and hid it. It was in the N.W. by W. I thought myself that it was clouds at a great distance above the other clouds, but could not make much out of it, as it clouded up soon after I noticed it. Time, 8.30 P.M., Irish time."
